

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form**

1. Applying for (select one): ☒ (a) Prop 13 Urban Water Conservation Capital Outlay Grant
☐ (b) Prop 13 Agricultural Water Conservation Capital Outlay Feasibility Study Grant
☐ (c) DWR Water Use Efficiency Project
2. Principal applicant (Organization or affiliation): Bear Valley Community Services District
3. Project Title: Golf Course Sprinkler Replacement
4. Person authorized to sign and submit proposal:
- | | |
|-----------------|-----------------------------------|
| Name, title | <u>John C. Yeakley</u> |
| Mailing address | <u>28999 S. Lower Valley Road</u> |
| Telephone | <u>661.821.4428</u> |
| Fax. | <u>661.821.0180</u> |
| E-mail | <u>bvcsd@csurfers.net</u> |
5. Contact person (if different):
- | | |
|------------------|-----------------------------------|
| Name, title. | <u>John Martin</u> |
| Mailing address. | <u>28999 S. Lower Valley Road</u> |
| Telephone | <u>661.821.4428</u> |
| Fax. | <u>661.821.0180</u> |
| E-mail | <u>bvcsd@csurfers.net</u> |
6. Funds requested (dollar amount): 19500
7. Applicant funds pledged (dollar amount): 0
8. Total project costs (dollar amount): 19500
9. Estimated total quantifiable project benefits (dollar amount): 198710
- Percentage of benefit to be accrued by applicant: 74
- Percentage of benefit to be accrued by CALFED or others: 26

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)**

10. Estimated annual amount of water to be saved (acre-feet): 31
- Estimated total amount of water to be saved (acre-feet): 155
- Over ____ years 3
- Estimated benefits to be realized in terms of water quality, instream flow, other: 0
11. Duration of project (month/year to month/year): 04/02 to 10/02
12. State Assembly District where the project is to be conducted: 34
13. State Senate District where the project is to be conducted: 17
14. Congressional district(s) where the project is to be conducted: 21
15. County where the project is to be conducted: Kern
16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources: N/A
17. Type of applicant (select one):
- Prop 13 Urban Grants and Prop 13
Agricultural Feasibility Study Grants:
- ☐ (a) city
☐ (b) county
☐ (c) city and county
☐ (d) joint power authority
☒ (e) other political subdivision of the State, including public water district
☐ (f) incorporated mutual water company
- DWR WUE Projects: the above entities (a) through (f) or:
- ☐ (g) investor-owned utility
☐ (h) non-profit organization
☐ (i) tribe
☐ (j) university
☐ (k) state agency
☐ (l) federal agency

18. Project focus:

- ☐ (a) agricultural
☒ (b) urban

Consolidated Water Use Efficiency 2002 PSP

Proposal Part One:

A. Project Information Form (continued)

19. Project type (select one):
Prop 13 Urban Grant or Prop 13
Agricultural Feasibility Study Grant
capital outlay project related to:

- ☒ (a) implementation of Urban Best
Management Practices
☐ (b) implementation of Agricultural Efficient
Water Management Practices
☐ (c) implementation of Quantifiable
Objectives (include QO number(s))

- ☐ (d) other (specify)

DWR WUE Project related to:

- ☐ (e) implementation of Urban Best
Management Practices
☐ (f) implementation of Agricultural Efficient
Water Management Practices
☐ (g) implementation of Quantifiable
Objectives (include QO number(s))
☐ (h) innovative projects (initial
investigation of new technologies,
methodologies, approaches, or
institutional frameworks)
☐ (i) research or pilot projects
☐ (j) education or public information
programs
☐ (k) other (specify)

20. Do the actions in this proposal involve
physical changes in land use, or
potential future changes in land use?

- ☐ (a) yes
☒ (b) no

If yes, the applicant must complete the CALFED
PSP Land Use Checklist found at
[http://calfed.water.ca.gov/environmental_docs.ht
ml](http://calfed.water.ca.gov/environmental_docs.html) and submit it with the proposal.

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One
B. Signature Page**

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form is authorized to submit the proposal on behalf of the applicant; and

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant.

Signature

Name and title

Date

Prop 13 Urban Water Conservation Grant Proposal Part Two

Project Summary

The Bear Valley Community Services District is a member of the California Urban Water Conservation Council, and as such, implements the fourteen best management practices for urban water conservation. BVCSD owns a nine-hole golf course, the Oak Tree CC, which it leases to the Bear Valley Springs Association. In the past three years the golf course consumed an average of 208 acre feet of water. This is relatively high consumption for a facility of its size. The excess water usage is the result of the sprinkler system having a low distribution uniformity (DU). Large landscape accounts such as this should achieve a DU of at least 70%, however, the BVCSD's golf course averages only 59% (range of 49% to 72%). The Pond-Shafter-Wasco Resource Conservation District surveyed our golf course on October 31, 2000 and determined the above rating (study results are attachment B). They concluded that the low DU was the result of (1) sprinkler heads being installed too low, (2) different types of sprinkler heads with different flow rates and coverage patterns were mixed in the arrays and (3) sprinkler head leaks were numerous. We propose to replace one-third of the sprinkler heads with new equipment to achieve at least 70% DU. By increasing DU from 59% to 70% we expect to reduce water consumption by 15%. We estimate that this project will provide 31 acre feet per year of reliable water savings. Over the useful life of the project (assumed to be 5 years), we will conserve 155 acre feet of water in this manner.

A. Scope of Work: Relevance and Importance

1. Nature, scope and objectives of the project

The objective of this project is to increase the distribution uniformity of the Oak Tree CC golf course irrigation system to 70% by replacing 300 of the 910 sprinkler heads with new equipment.

2. Statement of critical, local, regional, Bay-Delta, state or federal water issues

In 1992, development in Bear Valley Springs reached the point that local water resources (within the Bear Valley Springs watershed) are inadequate to meet peak summer demand. The local watershed provides 750 to 850 acre feet of water annually, depending on precipitation. Approximately 200 acre feet is produced by alluvial wells and another 550 to 650 acre feet is produced by deep hard-rock wells. Any water demand above this is imported from Cummings Valley, an adjudicated basin adjacent to Bear Valley Springs. BVCSD operates a conjunctive-use program in Cummings Valley whereby State Project water is purchased to recharge well water drawn for importation on a one-for-one basis. Any additional supplies imported into Bear Valley Springs has a direct impact on the State Water Project and, therefore, on the Bay-Delta.

Only forty-eight acre feet of water was imported in 1998. This has grown dramatically over the past four years, growing to 219af in 1999, 412af in 2000 and 549af in 2001. This water is not limitless therefore it must be conserved. Moreover, BVCSD is not the only water user in Cummings Valley; there are dozens of farming interests, hundreds of single family residences, an elementary school and a major California Correctional Facility.

Since BVCSD serves less than 3,000 customers and/or less than 3,000 acre feet per year, we are not required to submit a water management plan.

B. Scope of Work: Technical/Scientific Merit, Feasibility, Monitoring and Assessment

1. Methods, procedures and facilities

See attached landscape water audit report. The Resource Conservation District audited about half of the golf course irrigation stations. They will be requested to complete their audit of the remainder of the golf course before installation of new sprinkler heads begins. We will determine the exact number of sprinkler heads to be replaced after the completion of their work, but as of this writing, we estimate that one-third of the sprinklers will need to be replaced to get 70% DU. BVCSD stands ready and able to execute this plan if the grant is awarded.

2. Task list and schedule

The schedule for this project is as follows:

4/15/02	Receive notice of funding
5/1/02	Execute grant contract; request additional audit from Resource Conservation District
7/1/02	Resource Conservation District completes audit and produces report
8/1/02	Issue bid specifications and solicitation package
8/20/02	Receive bids
9/14/02	Award contract
10/1/02	Construction begins
10/31/02	Construction completed

3. Monitoring and assessment:

The Project Manager, who is the Assistant General Manager, will work with the engineer and the Bear Valley Springs Association to ensure that the project is completed as presented.

4. Preliminary plans and specifications and certification statements

A total of 300 new sprinklers and swing joints will be needed to achieve the desired result. Costs are shown below:

Rainbird 47/51 Impact Rotor Sprinkler	\$50
Swing Joint flexible pipe attachment	10
Installation labor (3 per manhour)	<u>5</u>
Total cost per new sprinkler	\$65

The Swing Joint flexible pipe attachment is needed to provide flexibility so that sprinkler heads driven over by golf carts will not break. This will allow the proper placement of the sprinkler heads in relation to the ground surface so that the grass near the sprinkler head will not interfere with the water spray pattern.

This project can be accomplished by contract with a private company, which would be our first choice, or it could be done with labor provided by the Bear Valley Springs Association on a reimbursement basis. We will further examine the cost-effectiveness of each approach if the grant is awarded.

I hereby certify that the project contained herein (replacement of 300 golf course irrigation sprinklers with new heads and attachments) is feasible. I further certify that all quantities, prices, schedules, estimates and other material information is sufficiently accurate and dependable to meet the needs of the grant proposal as specified in the solicitation package.

Signed: _____
John C. Yeakley, P.E.

C. Qualifications of the Applicants and Cooperators

1. Resume of the project manager: See Attachment A
2. External cooperators: We will require the cooperation of the Bear Valley Springs Association since they lease the facility from the BVCSD. Every effort will be made to expedite the project so that full water savings can be achieved in 2003.

D. Benefits and Costs

Budget breakdown and justification

Materials:

300 – Rainbird 47/51 Impact Rotor Golf Sprinkler	\$15,000
300 – Swing Joint flexible pipe connectors	<u>3,000</u>
Total Materials	\$18,000

Installation Labor	100 manhours @ \$15/hr	<u>\$1,500</u>
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Total Costs	<u>\$19,500</u>
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2. Cost-sharing.

No cost-sharing with other agencies is anticipated.

3. Benefit summary and breakdown

a.quantifiable: It is estimated that the district will save 31 acre feet per year this project. Over the life of the project, estimated to be 5 years, 155 acre feet of water will be saved. Using year 2001 dollars, this is a savings

to BVCSD of \$147,560 in avoided marginal operating and capacity costs (\$952/af). Every one of the 155 acre feet of water that will be conserved is water that would have come from the Bay-Delta. As stated previously, the Bear Valley Springs watershed has a limited production capacity of 750 to 850 acre feet per year. Our demand reached that limit in 1992 and since then we have had to import water from the State Water Project. Please don't make the mistake of assuming that the savings are realized only during the peak pumping season. Every single acre foot of water saved is a direct benefit to CALFED. As to how much this is worth to CALFED, we can only guess. However, for \$19,500 we can achieve 70% distribution uniformity in the golf course irrigation system which will save 155 acre feet of water over a five-year period, which calculates out to \$126 per acre foot.

CALFED benefits are assumed to be \$330 per acre foot. This is the figure cited in the CUWCC publication Guideline for Preparing Cost-Effectiveness Analyses of Urban Water Conservation Best Management Practices for State Water Project delivered to the Metropolitan Water District of Southern California (page 2-10). The dollar value of the CALFED benefits for this project, therefore, is \$51,150 (155 acre feet x \$330 each).

b. not quantifiable: None

4. Assessment of costs and benefits

All of BVCSD's marginal water supply comes from Cummings Valley, an adjudicated basin adjacent to Bear Valley Springs. BVCSD produces potable water from wells within Cummings Valley and purchases an equal amount from the Tehachapi-Cummings County Water District to recharge the basin. The water is then pumped over the hill separating the two basins and into the BVCSD system. The marginal operating cost of potable water, therefore, is the cost to purchase and pump Cummings Valley water plus the variable operating costs to produce and deliver potable water. In fiscal year 2000-01 variable costs were \$63 per acre foot. Only variable costs are considered because fixed costs do not vary with the quantity of water delivered. Marginal operating costs per acre foot are:

Variable operating costs	\$ 63
Purchase Cummings Valley water	375
Pump CV water to BV main level	<u>181</u>
Total Marginal Operating Cost	\$ 619

Marginal capacity cost is estimated to be \$333 per acre foot. Per our engineer's report for BVCSD water capacity fee (revised 2002), a \$5,000 capacity fee per new house or equivalent dwelling unit provides 0.5 acre foot of potable water per year per house for construction of wells and pipeline for new water supply. Assuming a 30-year useful life for the new facilities yields a marginal capacity cost of \$333 (\$5,000 / .5 acre feet per year / 30 years). The total avoided water supply cost for BVCSD, therefore, is \$952 per acre foot (\$619 + \$333).

So, the value of the water saved is \$29,512 per year (\$952 x 31 acre feet) and \$147,560 over the 5-year life of The project. Therefore, the project is cost effective for the district since we will save \$147,560 worth of water, but the project cost is only \$19,500.

E. Outreach, Community Involvement and Acceptance

There is no community opposition to this project.

JOHN MARTIN

29541 Butterfield Way • Tehachapi, CA 93561 • 661.821.1516

OBJECTIVE

To secure a Proposition 13 urban water conservation program grant to purchase and distribute 400 residential ultra-low flush toilets by June 30, 2004.

EMPLOYMENT

ASSISTANT GENERAL MANAGER 1993 TO PRESENT

Bear Valley Community Services District Tehachapi, California

Responsibilities include oversight of all financial functions, including budgeting, accounts payable and receivable, payroll, general ledger and reporting, including the analysis of trends and projections; fiduciary duties as Treasurer of the district; administration of the district's injury and illness prevention program as the designated Safety Officer of the district; administration of the water conservation program as the designated Water Conservation Coordinator of the district; administration of the district's emergency preparedness program acting as the liaison with the district's citizen-volunteer Disaster Council; oversight of all office procedures including water billing and related customer service; management of all district functions in the absence of the General Manager.

KEY CARRIER 1976 TO 1993

Vons Grocery Company Bakersfield, California

Responsibilities included supervision of retail store operations during evening hours, including the security of cash, customer service, personnel management, oversight of nighttime stocking operations and store security. The key carrier position was held from 1988 to 1993. Previous to 1988, job responsibilities included receiving clerk, warehouse clerk, checker, stock clerk and courtesy clerk.

EDUCATION

MASTER OF PUBLIC ADMINISTRATION 1996

California State University, Bakersfield Bakersfield, California

BACHELOR OF ARTS; PUBLIC ADMINISTRATION 1992

California State University, Bakersfield Bakersfield, California

SKILLS

Management of a large number of dissimilar tasks simultaneously.
Excellent service to customers and the public in a friendly and professional manner.
Execution of many software programs, including all Microsoft office products (Word, Excel, etc.) and Corel office products (WordPerfect, Quattro Pro, etc.) as well as the Multiple Operations Management Software of Corbin Willits Systems (general ledger, payroll, utility billing, purchase order, accounts payable and receivable, cash management and utility billing).